

Appl. No. 09/775,841

Status of the Claims:

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Claim 1. (Previously Amended) An optical switch comprising a cladding layer and a core disposed in an interior of the cladding layer for light propagating in such a way that a width of the core is enlarged at a branching section formed at a portion along a length of the core to provide plural branched cores to enable to alter a propagation path of inputted light by selective heating of portions of the branching section and the plural branched cores, wherein

a branching section heater for heating the branching section and branched core heaters for heating the plural branched cores are controlled separately, each branched core heater having distances from the branched core and a portion of the branching section facing the branched core so as not to disturb a light-branching operation.

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Claim 2. (Original) An optical switch according to claim 1, wherein a set of heaters comprised by a branching section heater and a branched core heater is provided for each core of the plural branched cores so as to selectively block propagation of light through the plural branched cores.

Claim 3. (Original) An optical switch according to claim 2, wherein said set of heaters comprised by a branching section heater and a branched core heater are controlled separately.

Claim 4. (Original) An optical switch according to claim 2, wherein said set of heaters comprised by a branching section heater and a branched core heater are made as a unitized heater.

Claim 5. (Previously Amended) An optical switch according to claim 1, wherein
a minimum distance separating a branching core heater for heating one branched core of the plural branched cores and a center of a core adjacent to said one branched core is 40 μm or more; and

a minimum distance between the branching core heater and the branching section is 40 μm or more.

Claim 6. (Original) An optical switch according to claim 1, wherein said core is a Y-shaped core having two branched cores.

Appl. No. 09/775,841

Claim 7. (Original) An optical switch according to claim 1, wherein at least one of either the core or the cladding layer is comprised by a polymeric material.

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Claim 8. (Original) An optical switch according to claim 1, wherein said branching section heater and said branched core heater are comprised by an electrically conductive thin film provided above the cladding layer.

Claim 9. (Original) An optical switch comprised substantially by combining in plural optical switches according to claim 1.